

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY
BUREAU OF AIR, PERMIT SECTION
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Project Summary for an Application from
Microsoft CH-1 Northlake for
Federally Enforceable State Operating Permit (FESOP) for
Computer Server Facility
Northlake, Illinois

Site Identification No.:031807AAN
Application No.: 09070018

Schedule

Public Comment Period Begins: May 22, 2014
Public Comment Period Closes: June 21, 2014

Illinois EPA Contacts

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I. INTRODUCTION

An application has been voluntarily submitted by Microsoft CH-1 Northlake Data Center for their Computer Server Facility in order to voluntarily incorporate federally enforceable limits. These limits would prevent the above facility from being a major source of emissions so that an operating permit does not have to be obtained under the Clean Air Act Permit Program. The proposed limits would be accompanied by recordkeeping requirements to assure that the plant is operated as a non-major source. Unlike the site's current operating permit(s), these conditions would be enforceable by both the State of Illinois and USEPA.

II. SOURCE DESCRIPTION

Microsoft CH-1 Northlake Data Center is a network-neutral data center and provides internet exchange and colocation services to its customers. The full-buildout facility will use twenty-seven 27 Detroit Diesel backup diesel emergency generator engines each rated at 2,740 kW (3,673 HP) in standby mode. 21 of the 27 generators would automatically activate during unplanned power outage, while the remaining 6 generators would be available as standby units in case any of the 21 active generators malfunctioned. Each emergency generator would be limited to only 73 hours per year during scheduled diagnostic testing, plus up to 48 hours per year during unplanned electrical outages. The facility will use the Twenty – four (24) mechanical draft cooling towers to provide air conditioning to the computers inside the facility. The principal air contaminant of concern is Nitrogen Oxides (NO_x) and Carbon Monoxide (CO) which is created by the combustion in the generators.

III. GENERAL DISCUSSION

Federally Enforceable State Operating Permits (FESOPs) are federally enforceable, that is, the terms and conditions of the permits can be enforced by USEPA under federal law, as well as by Illinois government and the public under state law. These permits can establish federally enforceable limitations on the operation and emissions of a source that restrict the potential emissions of the source.

The source will be operating this plant under a FESOP because the actual emissions of the plant are below the levels at which the plant would be considered a major source under Title V of the federal Clean Air Act. However, in the absence of federally enforceable limitations, the plant's potential emissions would be such that the plant would be considered a major source. The permit acts to restrict the plant potential emissions so that it need not be considered a major source. As a result, the source does not need to obtain a Clean Air Act Permit Program (CAAPP) permit for the plant, as would otherwise be required.

The FESOP limits the operation and annual emissions of the plant to below the major-source-thresholds of 100 tons for NO_x and CO.

IV. APPLICABLE EMISSION STANDARDS

All emission units in Illinois must comply with state emission standards adopted by the Illinois Pollution Control Board. These emission standards represent the basic requirements for sources in Illinois. The specific standards for this company are New Source Performance Standards (NSPS) for Stationary compression Ignition Internal Combustion Engines, 40 CFR 60 Subparts IIII and National Emission Standards for Hazardous Air Pollutants (NESHAP) for Stationary Reciprocating Internal Combustion Engines, 40 CFR 63 Subparts ZZZZ. These regulations limit the NO_x, CO, VOM, PM and SO₂ emitted from the fuel combustion units. This source has emission limits in its permit that keep the amount of hazardous air pollutants below major levels. The application shows that the plant is in compliance with applicable state and federal emission standards.

The principal air contaminant of concern is Nitrogen Oxides (NO_x) Carbon Monoxide (CO) which is created by the combustion in the generators. The facility has limited their throughput that will keep the NO_x and CO emissions below the major source threshold level of 100 tons per year for NO_x and CO.

V. CONTENTS OF THE PERMIT

This permit that the Illinois EPA is proposing to issue will identify the specific emission standards that apply to the emission units at the plant. The conditions of this permit are intended to ensure that the source continues to comply with applicable emission standards.

The permit would also contain limitations and requirements to assure that this plant is operated as a non-major source. The permit would limit the operation and annual emissions of the plant to below the major-source-thresholds of 100 tons per year for NO_x and CO. (Annual emissions of other pollutants from the plant are well below the 100 tons major source threshold.)

The permit sets limitations on the computer server facility emissions. These limitations are consistent with the historical operation and capacity of the facility.

The permit conditions require appropriate compliance procedures, including inspection practices as well as recordkeeping and reporting requirements. The source must carry out these procedures on an on-going basis to demonstrate that the plant is being operated within the limitations set by the permit and the plant's emissions are being properly controlled.

VI. REQUEST FOR COMMENTS

It is the Illinois EPA's preliminary determination that the source has met the requirements for issuance of its permit. The Illinois EPA is therefore proposing to issue the permit.

Comments are requested on this proposed action by the Illinois EPA and the proposed conditions on the draft permit. If substantial public interest is shown in this matter, the Illinois EPA will consider holding a public hearing in accordance with 35 IAC Part 166.